AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An axial shaft seal disposed between a housing wall and a rotating shaft, the axial shaft seal comprising:

an outer ring insertable into the housing wall in a stationary and sealing manner, the outer ring including a sleeve including a polymer material having a curved bellows form and providing a spring, the curved bellows form extending radially inward over its entire length, a radially inward end portion of the sleeve having a first sealing surface; and

an inner ring connectable to the shaft in a non-twisting and sealing manner and including a ring flange extending radially outward so as to provide a second sealing surface for axially mating the first sealing surface,

wherein the spring urges the first sealing surface against the second sealing surface; and

the inward end portion deviates from a radial normal direction by up to a maximum of 30°, when not axially mating the second sealing surface.

2. (Previously Presented) The axial shaft seal as recited in claim 1, wherein the inward end portion of the sleeve includes a circumscribing ring extending in a radial direction.

3. (Cancelled)

4. (Original) The axial shaft seal as recited in claim 2, wherein the circumscribing ring includes one or more sealing surfaces.

5. (Original) The axial shaft seal as recited in claim 1, wherein the first sealing surface includes lubricant-recirculating grooves.

6. (Original) The axial shaft seal as recited in claim 1, wherein the first sealing surface includes a friction-reducing coating.

7. (Original) The axial shaft seal as recited in claim 6, wherein the coating includes PTFE.

8. (Original) The axial shaft seal as recited in claim 6, wherein the sleeve includes a folded bellows.

9. (Original) The axial shaft seal as recited in claim 8, wherein the bellows open toward a lubricant side of the seal.

10. (Original) The axial shaft seal as recited in claim 1, wherein the outer ring includes a reinforcement member.

11. (Original) The axial shaft seal as recited in claim 2, wherein the circumscribing ring includes a reinforcing plate.

12. (Original) The axial shaft seal as recited in claim 1, wherein the ring flange includes lubricant-recirculating grooves.

13. (Original) The axial shaft seal as recited in claim 1, wherein the inner ring is made of metal.

14. (Original) The axial shaft seal as recited in claim 1, wherein the inner ring is at least partially sheathed with a polymer material.

15. (Original) The axial shaft seal as recited in claim 1, wherein the inner ring includes a plurality of projections extending radially inward for providing an axial stop with a shoulder of the shaft.

16. (Original) The axial shaft seal as recited in claim 1, wherein the inner ring includes a circumscribing flange for providing an axial stop with a shoulder of the shaft.

17. (Previously Presented) An axial shaft seal disposed between a housing wall and a rotating shaft, the axial shaft seal comprising:

an outer ring insertable into the housing wall in a stationary and sealing manner, the outer ring including a sleeve including a polymer material extending radially inward and having a spring bellows form, a radially inward end portion of the sleeve having a first sealing surface;

an inner ring connectable to the shaft in a non-twisting and sealing manner and including a ring flange extending radially outward so as to provide a second sealing surface for axially mating the first sealing surface, wherein the ring flange includes a radial extension having an outer portion; and

a sensor disposed at the housing wall and one of a transmitter wheel and a multi-pole wheel cooperating with the sensor to measure at least one of a rotational speed and shaft displacement.

18. (Previously Presented) An axial shaft seal disposed between a housing wall and a rotating shaft, the axial shaft seal comprising:

an outer ring insertable into the housing wall in a stationary and sealing manner, the outer ring including a sleeve including a polymer material extending radially inward and having a spring bellows form, a radially inward end portion of the sleeve having a first sealing surface;

an inner ring connectable to the shaft in a non-twisting and sealing manner and including a ring flange extending radially outward so as to provide a second sealing surface for axially mating the first sealing surface, wherein the inner ring includes a cylindrical part; and

an auxiliary flange disposed on the housing wall, a sensor disposed on the auxiliary flange one of a transmitter wheel and a multipole wheel for cooperating with the sensor.

19. (Previously Presented) An axial shaft seal disposed between a housing wall and a rotating shaft, the axial shaft seal comprising:

an outer ring insertable into the housing wall in a stationary and sealing manner, the outer ring including a sleeve including a polymer material extending radially inward and having a spring bellows form, a radially inward end portion of the sleeve having a first sealing surface;

an inner ring connectable to the shaft in a non-twisting and sealing manner and including a ring flange extending radially outward so as to provide a second sealing surface for axially mating the first sealing surface, wherein the inner ring includes a cylindrical part that includes one of a transmitter wheel and a multipole wheel; and

an auxiliary ring having a non-repellant washer mounted, the outer ring being mounted in the auxiliary ring.

20. (Original) The axial shaft as recited in claim 19, wherein the washer is made of a non-woven material.